DOCUMENT RESUME

ED 460 492 EC 306 868

AUTHOR Breda, Carolyn S.
TITLE Reliability of Parent Reports of Service Use in a Family-Focused System of Care.
SPONS AGENCY Army Health Services Command, Fort Sam Houston, TX.; North Carolina State Dept. of Human Resources, Raleigh. Div. of Mental Health, Developmental Disabilities, and Substance Abuse Services.; National Inst. of Mental Health (DHHS), Rockville, MD.
PUB DATE 1996-02-00
NOTE 9p.; In: A System of Care for Children's Mental Health: Expanding the Research Base. Proceedings of the Annual Research Conference (9th, Tampa, FL, February 26-28, 1996); see EC 306 844. Tables and figure are not available from ERIC.
CONTRACT DA-DA10-89-C-0013; R01MH-46136-01
PUB TYPE Reports - Research (143) -- Speeches/Meeting Papers (150)
EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Adolescents; Children; *Data Collection; Delivery Systems; Demonstration Programs; *Emotional Disturbances; *Family Programs; Longitudinal Studies; *Mental Health Programs; Military Personnel; Models; Parents; *Program Evaluation; *Reliability
IDENTIFIERS North Carolina (Fort Bragg)

ABSTRACT

This study examined whether parent reports of their child's service use are more reliable in a family-focused delivery system than in more typical service environments. Data were obtained through the Fort Bragg Evaluation Project, a longitudinal assessment of a managed care model for delivering mental health services to children and adolescents. Analysis is based on about 600 youth, of whom about 60 percent received services through the family-focused demonstration program and 40 percent through two traditional systems of care. Utilization data were obtained from both the youth's primary caretaker and institutional records. Analysis indicated that parents in the demonstration and comparison groups tended to report roughly equivalent rates of service use as found in their institutional records. Also, high percentages of agreement between parent and institutional reports were found for all service types, in both service systems. Analysis of reliability of reports found higher specificity and lower sensitivity for both demonstration and comparison groups. (Contains 19 references and endnotes.) (DB)

Reproductions supplied by EDRS are the best that can be made
from the original document.

The 9th Annual Research Conference Proceedings, A System of Care for Children's Mental Health: Expanding the Research Base (February 26 - 28, 1996).

ED 460 492

Reliability of Parent Reports of Service Use in a Family-Focused System of Care

Authors

Introduction Method Results Discussion References

U.S. DEPARTMENT OF EDUCATION
Office of Educational Research and Improvement
EDUCATIONAL RESOURCES INFORMATION CENTER (ERIC)
✓ This document has been reproduced as received from the person or organization originating it.
☐ Minor changes have been made to improve reproduction quality.
• Points of view or opinions stated in this document do not necessarily represent official OERI position or policy.

Introduction

Various efforts to restructure the mental health service system for children and adolescents have identified the value of a full continuum of services, coordinated by a case manager, in which families are encouraged to actively participate (Stroul & Friedman, 1986). Adequate assessments of the effectiveness of such "systems of care" require accurate information on service utilization. Very often, utilization data are obtained from a parent of the child client. This research examines whether parent reports of their child's service use are more reliable in a family-focused delivery system than in more typical service environments that do not explicitly embrace "system of care" principles.

EC 306368

BEST COPY AVAILABLE

Methods

Sample

Data were obtained through the Fort Bragg Evaluation Project (FBEP), a longitudinal assessment of a managed care model for delivering mental health services to children and adolescents (hereafter, the "Demonstration"). The present research is based on about 600 youth who remained in the study six months after intake to the Evaluation, for whom collateral service-related data were collected.1 About 60% of this sample received services through the family-focused Demonstration, and 40% through two traditional systems of care (hereafter, the "Comparison groups"). On average, the sample was about eleven years old, about 60% male. Seventy percent were white, 20% were African American; and 10% were of other or mixed races. About 80% lived in a two-parent household, with an annual income between twenty and forty thousand dollars. Over 90% of the youth had significant functional impairment (CAFAS; Hodges, 1990); over 97% obtained at least one clinical diagnosis based on parental responses to the Child Assessment Schedule (P-CAS; Hodges, Kline, Stern, Cytryn, & McKnew, 1982).2

Data Sources/Measures

Utilization data were obtained from the youth's primary caretaker (i.e., usually the biological mother) and institutional records (i.e., the management information system (MIS) at the Demonstration);3 and the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) database for the Comparison groups. The following service categories are examined: a) hospitalization (HOSP), b) residential treatment (RTC), c) outpatient therapy (OUT), and d) medical evaluations (MEDEVAL).4 For each category, two measures of utilization are analyzed: service use (i.e., "yes" or "no") and service dose (i.e., the number of service units received). Data are based on reports of use in the first six months after intake. Because parents may miss the distinction between hospitalization and residential treatment, or between outpatient care and medical evaluations, two general categories of use are created. "Restrictive" care includes hospitalization or RTC; "nonrestrictive" care includes outpatient care or medical evaluations.5

Analyses

Identical analyses of reliability were performed on the Demonstration and Comparison groups. First, the percentage of children who used each service type is reported based on each data source. Because parent and institutional reports can reveal identical rates of use without any association between the reports, proportional agreements between the two sources are also provided. Kappa coefficients, which indicate whether the agreement is better than what would be expected by chance (Cohen,

better than what would be expected by chance (Cohen, 1960) are shown.6 Agreement can arise because parents concur with institutional reports of use (i.e., "sensitivity") or nonuse (i.e., "specificity") (Kraemer, 1992). Therefore, data are also shown to indicate the nature of agreement between parent and institutional reports. Finally, correlations between collateral reports of service dose are shown.

Results

Table 1 shows that parents in the Demonstration and Comparison groups tend to report roughly equivalent rates of service use as found in their respective institutional records. Exceptions include parental overreporting of medical evaluations in the Demonstration and of RTC use among the Comparison groups.

Table 2 shows high percentages of agreement between parent and institutional reports for all service types, in both service systems. The proportional agreement on medical evaluations, though good, is the lowest observed. Most notably, Demonstration families indicate much better accuracy than the Comparison group with regard to nonrestrictive care, specifically for outpatient care. The kappas indicate that when chance agreement is eliminated, parents in both systems continue to report reliable use of restrictive care. Low kappas for nonrestrictive services are largely due to the relatively inaccurate reports of medical evaluations and the large number of youth who received outpatient care.7 In short, participants in the family-focused system of care provide good reports overall, better than their counterparts in traditional systems with regard to nonrestrictive services, though no better with regard to restrictive care.

Figure 1 shows that reliability depends on whether one considers the sensitivity or specificity of reports.8 Regarding restrictive services, the strong overall agreement at the Demonstration (in Table 2) is largely explained by high specificity (98%). Sensitivity of these reports is relatively low (69%), with parents at the Demonstration tending to underreport.9 The pattern among families in traditional systems is similar; they also show greater specificity (94%) than sensitivity (86%). While their specificity rate is comparable to that of the Demonstration, their sensitivity rate is higher.

The findings with regard to generalized, nonrestrictive care show greater sensitivity than specificity in both types of systems. Outpatient care in particular is overreported. However, this finding must be interpreted in context of the number of clients who received outpatient care. When so many receive the care, only a few cases incorrectly reporting its use would generate a high inaccuracy rate.10 The skewness of the sample's distribution is less severe in the Comparison group, where 11% did not receive outpatient care. Indeed, perhaps the most striking finding about reports of nonrestrictive services is the low specificity rate (17%) in

of nonrestrictive services is the low specificity rate (17%) in the traditional systems. Sensitivity of reports of nonrestrictive services is comparable in both service systems. The low reliability of medical evaluation reports in both systems is largely attributable to low sensitivity (i.e., underreporting).

Table 3 shows that parent reports on doses, as with use, are more accurate for restrictive than for nonrestrictive care. In both systems, correlations between parent and institutional records of generalized restrictive care are high and the difference between systems is not significant. When hospitalization is examined specifically, however, the correlation at the Demonstration ($r = .88$) is significantly higher than in the Comparison group ($r = .31$). On the other hand, correlations at the Demonstration for nonrestrictive care are low, and significantly lower than among the Comparison groups.

Table 4 summarizes the findings. A plus sign indicates the system with the stronger association between parent and institutional reports; a minus sign, the system with the weaker association. Of the seven specific service categories that can be compared, reports for the two service systems differed significantly on six. Of these six, four favored the Demonstration; two, the Comparison group. The general measures indicate that the accuracy of Demonstration families' reports of use and dose of restrictive care is about the same as observed among families in the traditional systems. For nonrestrictive services, Demonstration families tend to be more accurate with regard to use, but less accurate on questions about the number of service units rendered.

Discussion

Efforts to provide more effective mental health services for children have embraced the value of including children's families in the treatment process. This paper explored the possibility that parent reports may be more reliable in a family-focused system than in traditional systems that do not explicitly pursue family-focused interventions. Findings suggest that participants in a family-centered system generate reliable utilization data. However, their reliability does not consistently exceed that observed in traditional environments. With regard to restrictive care, this may be due to the introduction of innovative, intermediate services the Demonstration made available. Families at the Demonstration showed a greater likelihood of underreporting restrictive care than those in the Comparison group, a phenomenon that may relate to the greater number of additional services they received through the Demonstration.11 Reports of the use of nonrestrictive care are good; however, reports of dose are not very reliable, and significantly more unreliable than among the Comparison groups.

The Demonstration represented a new and rather complex

The Demonstration represented a new and rather complex structure with which parents and professionals alike had to familiarize themselves. The lack of consistent superiority in reliability of utilization reports through the Demonstration suggests such organizational challenges may have impeded the system's intended capacity to meaningfully include parents in treatment planning. Other research (Sonnichsen & Heflinger, 1993) has also found that families at the Demonstration were not significantly more involved in restrictive services than parents at the Comparison sites (though they were more involved in nonrestrictive care). Together, these findings suggest that we may need to reorganize or redouble our efforts to include families as active, knowledgeable partners in the therapeutic process. Moreover, it may be that any added value of family-focused service systems for reliable parent reports may obtain only after participants in the system have time to adapt to the new organizational environment.

References

Bickman, L., Guthrie, P., Foster, E. M., Lambert, E. W., Summerfelt, W. T., Breda, C., & Heflinger, C. A. (1995). Managed Care in Mental Health: The Fort Bragg Experiment. Plenum Publishing Corp.

Cohen, J. (1960). A coefficient of agreement for nominal scales. Educational and Psychological Measurement, 20: 37-46.

Hodges, K. (1990). The child and adolescent functional assessment scale (CAFAS). Unpublished manuscript.

Hodges, K., Kline, J., Stern, L., Cytryn, L., McKnew, D. (1982). The development of a child assessment interview for research and clinical use. Journal of Abnormal Child Psychology 10, 173-189.

Kraemer, Helena Chmura. (1992). Evaluating medical tests: Objective and quantitative guidelines. Newbury Park, CA: Sage.

Sonnichsen, S., & Heflinger, C. A. (1993). Preliminary assessment of parent involvement: Appendix G. The Final Report of the Implementation Study of the Fort Bragg Evaluation Project Volume II: Appendices A-H. Center for Mental Health Policy, Vanderbilt University, Nashville, TN.

Stroul, B. A. & Friedman, R. (1986). A System of Care for Children and Youth With Severe Emotional Disturbances (Rev. ed.). Washington, DC: Georgetown University Child Development Center, CASSP Technical Assistance Center.

Summerfelt, W. T., Foster, E. M., & Saunders, R. C. (1996). Mental health services utilization in a children's mental health managed care demonstration. The Journal of Mental Health Administration, 23(1), 80-91.

Endnotes

1. The follow-up sample used for this research is more limited than in the original Fort Bragg database described elsewhere (Bickman, et al., 1995). First, about 10% of the Demonstration sample has been excluded because they "transitioned" into a different level of care at the time they entered the evaluation. These parents may have unusual difficulty in distinguishing between services received before and after transition, particularly when these services represent treatment for the same episode. Second, about 100 cases at the Demonstration, who indicated their childhood an initial pretreatment visit but did not return for treatment were excluded from analyses. Finally, a small number of parents in the Comparison group indicated that outpatient and medical evaluations were not paid by CHAMPUS. These cases were excluded because the transactions would not be included in the CHAMPUS database. Thus, the research is based on the approximately 600 cases for which service use data could be expected in both the parent and institutional database for the same six-month interval.

2. The child and family profiles of the Demonstration and Comparison groups were similar on factors that may differentially affect parent recall of services, for example&endash;the types or degree of their child's problems and their previous experience in the mental health system. See Bickman, et al., 1995 for more details on the sample and its representation of other youth in treatment.

3. Previous analysis compared the Demonstration's MIS and provider data and found strong agreement between the two sources (Bickman, et al., 1995). Thus, the institutional record is considered the "gold standard" in this research, to which reliability of parent reports is assessed.

4. The Demonstration offered intermediate levels of care (e.g., day treatment) that were unavailable to the Comparison groups. Only the four service types offered through both service systems are included in this research.

5. Multiple reports of use of the same service type within the six month period are counted once. Dosages associated with multiple reports of the same service type are summed. Thus, service use and dose represent service types used and the total dose received, regardless of the number of episodes or providers associated with each service.

6. Kappa estimates of reliability decrease as the proportion of cases across categories departs from equality. In these data, a sizable majority of cases is classified similarly&endash;for example, more than 90% who indicate use or nonuse of some services. In this situation, the likelihood of chance agreement is extremely high and the ability to improve prediction beyond chance (as indicated by kappa) is weak. Further, estimates of reliability also

decrease as the number of response categories decreases. Thus, kappas will be lower for the nominal yes/no dichotomies used here to indicate service use then would be expected for ordinal measures. Given these properties of kappa and of these data, kappas should be interpreted in conjunction with other findings presented.

7. It is difficult to improve upon chance, thus obtain large kappas, when the vast majority of cases fall into the same category which is the case here with outpatient care.

8 Less sensitive reports suggest that parents underreport service use; less specific reports suggest parents overreport use. Cases (indicated by dots for the Demonstration, triangles for the Comparison groups) in the upper right quadrant of Figure 1 suggest relatively high specificity and sensitivity. Symbols that lie below or to the left of this quadrant suggest diminishing specificity and sensitivity, respectively.

9. At the Demonstration, too few cases had reports of RTC use, and a sensitivity measure was not calculable. Because both sensitivity and specificity measures are required for charting, Figure 1 does not include an indicator ("dot") of RTC use for the Demonstration.

10. The proportion of clients who overreport is based on the total number of clients who did not receive that type of care. For the Demonstration, only 2% (N = 5) of families did not receive outpatient care. Thus, just two clients incorrectly reported use yielding a 40% inaccuracy rate.

11. Summerfelt, Foster, & Saunders, (1966) report greater service use among children at the Demonstration than at the Comparison sites. Further, auxiliary analyses were conducted on Demonstration clients to ascertain whether their underreporting of restrictive services was associated with overreporting of other service types. Findings showed that underreporters tended to report a greater number of other services than parents who accurately reported services, particularly, intermediate residential services&endash;those that parents may be most likely to confuse with traditional restrictive settings. And, official data corroborated the parents' reports&endash;underreporters did in fact receive a somewhat greater number of other services than accurate reporters (3.0 vs. 1.5). This suggests that the basis for underreporting may be due to confusion that understandably may result when multiple services are provided. However, confidence in these findings is dampened by the small number of clients at the Demonstration who received intermediate services.

Authors

Carolyn S. Breda, Ph.D.
Research Associate
Center for Mental Health Policy

Vanderbilt University
1207 18th Ave. South
Nashville, TN 37240
Voice: 615/322-8435
Fax: 615/322-7049
bredacs@ctrvax.vanderbilt.edu

For further information, contact Dr. Breda at Vanderbilt Center for Medical Health Policy, 1207 18th Ave. South, Nashville, TN 37212. This research was supported by the U.S. Army Health Services Command (DA-DA10-89-C-0013) as a subcontract from the North Carolina Department of Human Resources/Division of Mental Health, Developmental Disabilities and Substance Abuse Services, and a grant to Dr. Leonard Bickman (R01MH-46136-01) from the National Institute of Mental Health.

Liberton, C., Kutash, K., & Friedman, R. M. (Eds.), (1997). The 9th Annual Research Conference Proceedings, A System of Care for Children's Mental Health: Expanding the Research Base (February 26 - 28, 1996). Tampa, FL: University of South Florida, Louis de la Parte Florida Mental Health Institute, Research & Training Center for Children's Mental Health.